



Physico-Mechanical Behavior of Zidovudine (AZT) Hydrophilic Matrices

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SUMMARY. The aim of this work was to study the physico-mechanical properties of zidovudine (AZT) hydrophilic matrices. Four formulations containing 100 mg of zidovudine and HPMC K4M and K15M (25 and 50%) were produced and studied. Differences between the viscosity variations of HPMC showed no significant influence in the process. The model of the Power Law indicated that the water uptake event is dependent on the Fickian diffusion of water into the matrix under influence of the presence of AZT. The study of axial and radial swelling of the matrix has identified a predominance of anisotropic swelling, where the increase in the matrix thickness supplants the radius. From the study of 3D matrices we could see that the central region with greater intensity corresponds to the polymer in the vitreous state, and the region around, identified as a depression and the graph represents the area of colored matrices.

KEY WORDS: hydrophilic matrices, HPMC, kinetic behavior, zidovudine.

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